

IN THE SPECIFICATION

Please replace the paragraph beginning on page 19, line 22 and ending on page 20, line 1 with the following amended paragraph.

Step 1 of scanning the phantom is shown as S1 in Figure 4. First, an operator places the phantom 310 having a circular section at a predetermined position in the bore 29. However, the phantom 310 shall be located at a position off the center of the X-ray field in the bore 29. As mentioned above, the phantom 310 having a circular section shall be made of a material such as polypropylene, be shaped like a cylinder, and have a diameter of, for example, 35 cm.

Please replace the paragraph beginning on page 22, line 11 and ending on page 22, line 15 with the following amended paragraph.

Step 2 of preprocessing is shown as S2 in Figure 4. Fig. 6 shows files that are produced during preprocessing, stored in the storage device 66, and have intermediate projection information recorded therein.

Please replace the paragraph beginning on page 22, line 17 and ending on page 23, line 8 with the following amended paragraph.

Step 3 of correcting data in terms of the beam-hardening effect is shown as S3 in Figure 4. The beam-hardening correction means 203 included in the data processing unit 60 corrects projection information values I_h in terms of the beam-hardening effect using the expression (1), and thus calculates corrected projection information values I_c . The results of the correction are stored as second projection information shown in Fig. 6 in the storage device 66. The file has the beam-hardening effect generally removed therefrom. However, the beam-hardening effect slightly remains because of a difference of each channel of the X-ray detector 24 from the others. Fig. 7(A) illustratively shows an example of the second projection

information. The second projection information is plotted as a semicircular curve because it is produced from projection information acquired from a generally circular phantom. However, the projection information values I_c sampled in relation to some channels are plotted as pulse-like fluctuations because of a difference in the sensitivity of each channel to X-rays from the other channels. This is a channel-specific phenomenon and must therefore be corrected channel by channel. Fig. 8(A) illustratively shows an example of projection information values sampled from the second projection information in relation to one channel in the direction of views. The projection information values I_c sampled in relation to some views are plotted as pulse-like fluctuations.

Please replace the paragraph beginning on page 23, line 10 and ending on page 23, line 15 with the following amended paragraph.

Step 4 of smoothing in the direction of channels is shown as S4 in Figure 4.

The first fitting means 204 included in the data processing unit 60 smoothes second projection information 602 in the direction of channels. The results of the smoothing are stored as third A projection information 603 shown in Fig. 6 in the storage device 66. The projection information has projection information values I_c thereof, which are plotted as pulse-like fluctuations attributable to a difference of one channel from the other channels, smoothed and removed.

Please replace the paragraph beginning on page 23, line 20 and ending on page 24, line 2 with the following amended paragraph.

Step 5 of smoothing in the direction of views is shown as S5 in Figure 4. The

first fitting means 204 included in the data processing unit 60 smoothes projection information 603 in the direction of views. Consequently, third B projection information 604 shown in Fig. 6 is produced. The projection information has projection information values, which are plotted as pulse-like fluctuations derived

from a difference of one view from the others detected on each channel, smoothed. Fig. 8(B) illustratively shows an example of the third B projection information. The projection information values that are sampled in relation to one channel in the direction of views and that exhibit cyclicity are smoothed.

Please replace the paragraph beginning on page 24, line 4 and ending on page 24, line 9 with the following amended paragraph.

Step 6 of calculating a correction coefficient as a linear function is shown as S6 in Figure 4. The second fitting means 205 included in the data processing unit 60 calculates a correction coefficient as a linear function from the second projection information and third B projection information. Assume that projection information values sampled from the second projection information in relation to channel number i shall be $S(j)$ and projection information values sampled from the third B projection information in relation to channel number i shall be $F(j)$.

Please replace the paragraph beginning on page 25, line 15 and ending on page 25, line 20 with the following amended paragraph.

Step 7 of verifying whether precision should be improved is shown as S7 in Figure 4. The verifying means 206 included in the data processing unit 60 verifies whether the precision in a correction coefficient should be improved. If the precision in a correction coefficient should be improved, an operator places a phantom, which has a circular section and a different diameter, at a different position off the center of the X-ray field within the bore 29. Steps 1 to 6 are resumed in order to calculate a new correction coefficient using the new phantom.

Please replace the paragraph beginning on page 26, line 7 and ending on page 26, line 15 with the following amended paragraph.

Step 8 of fitting a high-order function is shown as S8 in Figure 4. A plurality of phantoms is used to perform the foregoing processing. If correction coefficient data acquired is precise enough be accepted, the high-order fitting means 207 included in the data processing unit 60 fits a high-order function close to the correction coefficients that are calculated from the adopted domains. Fig. 10 shows an example of fitting to the correction coefficients obtained using phantoms A and B and indicated in Fig. 9(B). The high-order fitting means 207 fits a third-order function close to the correction coefficient value A calculated from domain A and the correction coefficient value B calculated from domain B, and then determines correction coefficients K0, K1, and K2.

Please replace the paragraph beginning on page 27, line 2 and ending on page 27, line 5 with the following amended paragraph.

Step S9 of preserving correction coefficients is shown as S9 in Figure 4. The high-order fitting means 207 included in the data processing unit 60 preserves high-order correction coefficient information 606 composed of the correction coefficients K0, K1, and K2 in the storage device 66, and terminates the process.

Please replace the paragraph beginning on page 27, line 7 and ending on page 27, line 12 with the following amended paragraph.

Step S10 of displaying information is shown as S10 in Figure 4. In order to visualize a subject, the final correction means 208 included in the data processing unit 60 uses the correction coefficients K0, K1, and K2, which are calculated in relation to each channel, to correct projection information values I_c that are acquired from a subject and corrected in terms of the beam-hardening effect. Consequently, projection information values I_f are calculated according to the expression (2).